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(INFANT, PREMATURE
neonatal weight loss curve)

BLECHOVA, Dagmar; PEREGRINOVA, Alena

Collecting station for human milk at the tissue bank of the Regional Office of National Health in Hradec Kralove. Sborn. ved. prac. lek. fak. Karlov. Univ. (Hrad. Kral.) 6 no.3: Supplement:307-310 '63.

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*

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HODR, R.; STEFAN, H.; PEREGRINOVA, A.; MOTYCKA, M.

Osteomyelitis in newborn and older infants. Cesk. pediat. 20 no.8:676-683 Ag '65.

1. Detska klinika (prednosta prof. dr. J. Blecha, DrSc.) a chirurgicka klinika (prednosta prof. dr. J. Prochazka, DrSc.) lekarske fakulty Karlovy University v Hradci Kralove.

SEGAL, Ya., metodist; SHPARTOV, M.; GLINSKIY, B.I.; PEREGUD, A.

Letters and notes. Zdrav.Bel. 8 no.7:92-93 Jl '62. (MIRA 15:11)

1. Grodnenskiy oblastnoy Dom sanitarnogo prosveshcheniya (for Segal). 2. Zaveduyushchiy otdelom propagandy i agitatsii Klichevskogo rayonnogo komiteta Kommunisticheskoy partii Belorussii (for Shpartov). 3. Zaveduyushchiy Leshchinskim fel'dshersko-akusherskim punktom Minskoy oblasti (for Glinskiy).
(MEDICINE)

ACCESSION NR: AP4013421 S/0057/64/034/002/0321/0325

AUTHOR: Kel'man, V.M.; Levchenko, S.I.; Luzyanin, I.D.; Peregud, B.P.

TITLE: Vertical focusing of an electron beam in an axially symmetric radially increasing magnetic field by cylindrical magnetic lenses

SOURCE: Zhurnal tekhn.fiz., v.34, no.2, 1964, 321-325

TOPIC TAGS: electron beam, electron beam focusing, magnetic lens, cylindrical magnetic lens, vertical beam focusing, vertical cyclotron beam focusing, cyclotron, accelerator, continuous injection accelerator

ABSTRACT: This paper is the most recent of a series (V.M.Kel'man, B.P.Peregud, K. A.Domatova, ZhTF 28,No.5,1055-1060,1958; Yu.V.Vandadurov,Ibid.28,No.5,1065-1076, 1958; V.M.Kel'man, B.P.Peregud,K.A.Dolmatova,I.D.Luzyanin,Ibid.30,No.2,153-158,1960) devoted to discussion of a system for vertical focusing of the beam in a cyclotron or similar device. The focusing system is described in earlier papers of the series. The focusing system consists of a number of cylindrical magnetic lenses located on equally spaced radii of the acceleration chamber. The present paper reports an experimental investigation of the effectiveness of the focusing system by means of

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ACCESSION NR: AP4013421

probe measurements of beam intensity under various conditions. The apparatus (except for the probe, which presents no novel features) was described in an earlier paper. The chamber was 4 cm high and somewhat more than 32 cm in radius. A 5 keV electron beam was employed. The beam current was measured at 135° from the injection point as a function of the current in the focusing lenses. Appropriate excitation of the lenses increased the beam current by a factor of 100. The beam current was measured as a function of the radius with the lenses excited. Six peaks could be distinguished which, by their relative heights, could be correlated with the first six revolutions of the beam. The positions of the beam after each of its first five revolutions were calculated by a method developed in a previous paper. The calculated beam positions agreed very well with the locations of the five highest peaks on the current versus radius curve. The position of the beam after the sixth revolution is not discussed. The following conclusions are drawn: 1) The proposed system assures effective vertical focusing of an electron beam in a radially increasing magnetic field. 2) Formulas developed in an earlier paper can be employed to calculate the behavior of the system [illegible] with cyclotrons to increase the beam energy, and for the development of new types of continuous injection accelerators. "The authors express their gratitude to Yu.

Card 2/3

ACCESSION NR: AP4013421

V.Vandakurov and Yu.S.Korobochka for the interesting and valuable discussions that occurred during the course of the work." Orig.art.has: 4 formulas, 5 figures and 1 table.

ASSOCIATION: Fiziki-tekhnicheskiy institut im. A.F.Ioffe AN SSSR, Leningrad (Physical-Technical Institute, AN SSSR)

SUBMITTED:26Dec62 DATE ACQ: 26Feb64 ENCL: 00

SUB CODE: PH, SD NR SOV REF: 004 OTHER: 000

Card 3/3

120-3-17/40

AUTHOR: Peregud, B.P.

TITLE: A High-sensitivity, Compensating Magnetometer (Kompensatsionnyy magnetometr vysokoy chuvstvitel'nosti)

PERIODICAL: Pribory i Tekhnika Eksperimenta, 1957, Nr 3, pp.64-69 (USSR)

ABSTRACT: Apparatus for measuring the strength of a constant magnetic field up to 100 Oe with a threshold sensitivity of 2×10^{-5} Oe is described. The high sensitivity is obtained by using a double-frequency saturable probe. The block diagram of the apparatus is given in Fig.1. The compensation method consists in neutralizing the measured field over a small region by an opposition field of known value, which is created by a coil carrying current. Inside the coil is placed a saturable probe which produces an output signal until the measured field is fully neutralized. Then the current necessary to cause the neutralization is measured. The operation of the probe is based on the production of even harmonics due to change of the induction of the magnetically-soft core material when it is subjected simultaneously to constant and alternating fields. With a steady value of the exciting alternating field the amplitudes of the even harmonics are functions of the magnitude of the constant field,

A High-Sensitivity, Compensating Magnetometer.

which magnetizes the core, and their phases are determined by the direction of this field; reversing the magnetic field causes 180° phase change of the even harmonics. The probe consists of two cores, parallel to each other, made of permalloy, on each of which are two windings - an excitation winding (1400 turns) and a measuring winding (400 turns). The excitation windings are connected in series so that the current in them creates opposing fields, due to which the voltages induced into the measuring windings, with no external field, are equal and opposite and cancel out. An external field will produce a change in the induction curve of the core material and since the even harmonics are in phase, an output signal will be produced, the basic frequency of which will be double the frequency of the excitation voltage. The construction of the probe is shown in Fig.2. The probe was adjusted by Helmholtz' rings to give zero output with no external field. The sensitivity was increased by connecting a capacitor in parallel with the measuring coil. This capacitor tuned the circuit to a frequency close

A High-sensitivity, Compensating Magnetometer.

to the signal frequency. The circuit diagram is given in Fig.3. The 4000 c/s excitation voltage is produced by the RC oscillator ($Л_1$ and $Л_2$, 6Ж7). Then follows an amplifier stage ($Л_3$; 6П6) and a power amplifier ($Л_4$ and $Л_5$, 6П6) the anode of which is tuned to 4000 c/s. For maximum sensitivity, the voltage applied to the probe is 25 V at 0.03 A. The probe output signal is amplified by the RC tuned amplifier ($Л_6$, $Л_7$, $Л_3$, 6Ж7); C12 tunes the input circuit to 8000 c/s. The frequency response of the amplifier is given in Fig.5. The gain at 8000 c/s is 2000. The signal is applied to the control grids of the phase discriminator ($Л_{11}$ and $Л_{12}$) and the reference voltage is applied to the screen grids. The magnitude and polarity of the DC output voltage of the discriminator depends on the magnitude and phase of the AC signal voltage. The reference voltage is obtained by frequency doubling the excitation voltage (B_2 and $Л_9$, $Л_{10}$). Phase change between the reference voltage and the signal voltage is balanced out by R_{48}, R_{50}, C_{32}, C_{34}. The neutralizing circuit consists of

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A High-sensitivity, Compensating Magnetometer.

a stable DC source, rheostats, a current meter (measuring the voltage across a standard resistance) and the compensating coil. The compensating coils are made in two variants: solenoidal and closed loop forms (Fig.6). The solenoidal produces about 0.5% error due to local hysteresis of the magnet poles (when measuring the field of a β-spectrometer magnet); the closed loop type prevents this error but the sensitivity is reduced. There are 6 figures and 8 references, 2 of which are Russian and 6 English.

ASSOCIATION: Physico-Technical Institute of the Academy of Sciences, USSR (Fiziko-tekhnicheskiy institut AN SSSR)

SUBMITTED: December 30, 1956.

AVAILABLE: Library of Congress.

Card 4/4 1. Magnetometer-Application 2. Magnetic fields-Measurement

SOV/120-58-2-2/37

AUTHORS: Peregud, B. P. and Abramova, K. B.

TITLE: An Instrument for the Automatic Control of a Magnetic β-Spectrometer (Pribor dlya avtomaticheskogo upravleniya magnitnym β-spektrometrom)

PERIODICAL: Pribory i Tekhnika Eksperimenta, 1958, Nr 2, pp 12-17 (USSR)

ABSTRACT: Spectrometric measurements on magnetic spectrometers are difficult and troublesome. In order to free the experimenter and remove subjective errors a number of authors have devised methods of automatising their spectrometers (Refs. 1 and 2). The present work contains a description of an attachment to the spectrometer which is being constructed at the Leningrad Physico-technical Institute. The attachment makes it possible to count automatically the number of particles which passes through the detector of the β-spectrometer in a preset time for 25 different energies. The preset time may be in the range 1 sec to 25 min. The interval between neighbouring energy values may also be varied within wide limits depending on the construction of the spectrometer. Twenty five mechanical counters are used to record the number of particles. With small modifications the instrument may also be used to control a

Card 1/2

SOV/120-58-2-2/37

An Instrument for the Automatic Control of a Magnetic β-Spectrometer.

luminescence counter. The block diagram of the device is shown in Fig.1 and the basic circuit in Fig.2. V. M. Kel'man is thanked for his interest in this work. There are 4 figures, 1 table and 2 English references.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN SSSR (Physico-technical Institute of the Academy of Sciences of the USSR)

SUBMITTED: July 30, 1957.

Card 2/2 1. Spectrum analyzers--Control 2. Instruments--Applications

SOV/120-58-5-14/32

AUTHOR: Poregud, B. P.

TITLE: Stabilization of Direct Current and Voltage by Using the Field of a Permanent Magnet as a Reference Quantity (Stabilizatsiya postoyannogo toka i napryazheniya s ispol'zovaniyem polya postoyannogo magnita v kachestve opornoy velichiny)

PERIODICAL: Pribory i tekhnika eksperimenta, 1958, Nr 5, pp 59-64 (USSR)

ABSTRACT: The block schematic of the stabilization device is shown in Fig.1, p 60. This comprises a magnetically saturated probe which is situated inside a toroidal coil and, together with the coil, placed in the gap of a magnetic circuit whose flux is produced by a permanent magnet. The winding of the toroidal coil is connected in series with the current regulator and the load whose current should be stabilized. This circuit can be supplied from a source of direct current. The current regulator consists of a number of control tubes connected in parallel to each other

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Stabilization of Direct Current and Voltage by Using the Field of a Permanent Magnet as a Reference Quantity

and in series with the current stabilizing circuit. The field produced by the toroidal coil should be equal to the field inside the magnetic gap. Under these conditions, since the two fields cancel each other, the signal produced by the probe is zero. If the current deviates from its normal value, the probe produces a signal which is proportional to the difference between the field of the magnet and that of the coil. The signal is amplified in an electronic magnetometer and then applied to the input of the current regulator. A detailed circuit of the device is given in Fig.3, while a photograph of the magnet is shown in Fig.2. The circuit of Fig.3 can be used to give stabilized currents of 220 mA; by increasing the number of parallel tubes the current can be increased up to 850 mA. The regulation characteristics of the stabilizer are shown in Figs.4 and 5. Fig.4 gives the value of the current as a function of the input voltage for a load of 150 Ω. Fig.5 shows the value of the current as a function of the load. From the curves it was concluded that the stabilizer gives a stability of the order of 0.001% over a comparatively large range of input voltages and loads. The author expresses his

Stabilization of Direct Current and Voltage by Using the Field of a Permanent Magnet as a Reference Quantity

gratitude to V. M. Kel'man for valuable advice and discussion of the results and to Ya. Zhilich and Ya. Kormitskiy for participation in the construction of the stabilizer and to Z. V. Zhukova for taking part in measuring the characteristics of the stabilizer. The paper contains 5 figures and 6 references; 3 of the references are Soviet, 1 German and 2 English.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN SSSR (Physics-Engineering Institute of the USSR Academy of Sciences)

SUBMITTED: June 14, 1957.

AUTHOR: Peregud, B. P.

TITLE: Stabilization of the Field of an Electromagnet (Stabilizatsiya polya elektromagnita)

PERIODICAL: Pribory i tekhnika eksperimenta, 1958, Nr 5, pp 64-67 (USSR)

ABSTRACT: The more usual methods of stabilizing the field in the gap of an electromagnet involve the use of a rotating coil (Ref.1) or the phenomenon of nuclear resonance (Ref.2). In the present paper a method is described whereby the field is stabilized, using a magnetically saturated probe inserted into the gap. This means that the fields which may be stabilized are of low intensity but the accuracy of stabilization is higher in comparison with the above two methods. In particular, the field in the gap may be stabilized to 0.01-0.003% when the supply voltage or the external field change by 3%. The intensity of the stabilised field may lie within the limits 7.5-120 oersted. A block diagram of the device is shown in Fig.1. The reference field is produced by a toroidal coil which carries a constant current. The stability of this current governs the accuracy to which the field in the gap of an electromagnet may be stabilized. Since the power taken by the toroidal coil is low, the

Stabilization of the Field of an Electromagnet

stabilization of the current flowing through it is not difficult and may be achieved by the use of a storage battery of sufficient capacity or an electronic current stabilizer. A magnetically saturated probe is placed inside the coil and the whole assembly is inserted into the gap of an electromagnet. The directions of the field of the magnet and of the coil in the region of the probe are opposite. When the two fields are equal the probe is unaffected by the fields and no signal is obtained. If the field in the gap changes, a corresponding change is felt by the probe and an audio-frequency voltage appears at the output of the probe. The signal is proportional to the field acting on the probe and its phase depends on the direction of the field. The signal is amplified and converted into a constant voltage whose polarity is determined by the phase of the signal given by the probe. The signal from the output of the magnetometer is applied to a current regulator connected in series with the supply windings of the electromagnet. The circuit of the

Card 2/3

Stabilization of the Field of an Electromagnet

current stabilizer is shown in Fig.2 and the characteristics for different fields are given in Figs.3, 4, 5 and 6. There are 6 figures and 3 references, 2 of which are Soviet and 1 English.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN SSSR (Physico-Technical Institute of the Academy of Sciences, USSR)

SUBMITTED: July 22, 1957.

AUTHORS: Kel'man, V. M., Peregud, B. P., Dolmatova, K. A. 57-28-5-26/36

TITLE: Accelerators With a Radially Growing Leading Field and Additional Electron Optical Elements for Securing the Vertical Focussing of the Beam (Uskoriteli s radial'no narastayushchim vedushchim polem idopolnitel'nymi elektronnooptioheskimi elementami, obespechivayushchimi vertikal'nuyu fokusirovku puchka)

PERIODICAL: Zhurnal Tekhnicheskoy Fiziki, 1958, Vol. 28, Nr 5, pp. 1056-1064 (USSR)

ABSTRACT: The application of a radially decreasing field in modern weakly focussing accelerators is determined by the necessity of a vertical focussing of the beam of the accelerated particles. The new possibilities, which have been proposed from various sides (references 1-8) immediately attracted the interest of researchers. Recently, numerous experimental and theoretical investigations were conducted dealing with the application of these proposals in different types of accelerators (references 9-22). All these methods have the following in common: 1) The vertical field component is not constant in the middle plane and periodi-

Card 1/4

cally changes its value, or, with respect to the azimuth, even its direction. 2) The functions of the leading and of the focussing field are performed by one and the same field, which only formally can be regarded as a superposition of two fields. This field, however, is created only by one magnetic system; 3) The magnet poles must possess an accurately worked, complicated profile (method by Thomas and the spiral-sector variant) or the field must be created by a great number of accurately placed sector magnets. A series of shortcomings attached to the new accelerator constructions are a result of these circumstances. The authors propose another method. The focalization is effected by supplementary electron optical elements: with cylindrical magnetlenses or magnet gaps. The method guarantees the stability of the radial as well as of the vertical betatron oscillations and can be employed for the construction of circular accelerators of different types. In this paper the possible constructional variants of the focussing system are drawn into consideration and the electron model is described. The peculiarities of the proposed method differentiating it from earlier

ones, are as follows: 1) A separation of the functions of focalization and of leading the beam between two elements - the magnet and the focussing system. This guarantees the free choice of the shape of the leading field and facilitates its creation. As a result of the separation a facilitated leading of the beam and a slackening of the restrictions imposed upon the production and the mounting of the constructional nodes of the accelerator can appear. This is the case in particular, if small adjustments and a flexibility of the elements of the focussing system during the mounting of the accelerator are provided for. 2) The comparatively low weight of the electromagnet creating the leading field in comparison to the weight necessary in earlier methods. This is connected with the fact that the magnetic circuit of the focussing system is not closed by the yoke of this magnet. 3) An increase of the copper weight and of the necessary power. 4) A more simple construction of the electromagnet consisting of the possibility of employing a closed ring magnet with a low number of magnetizing coils and no sector magnet. An electronic simulator was built for experimental exa-

Accelerators With a Radially Growing Leading Field and Additional Electron Optical Elements for Securing the Vertical Focussing of the Beam

57-28-5-26/36

mination. A schematic cross section of this model is shown in figure 2. At present the model is prepared for experiments. The authors thank G.A. Grinberg, Yu.V. Vandakurov, D.G. Alkhazov and D.M. Kaminker. There are 3 figures and 29 references, 10 of which are Soviet.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN SSSR, Leningrad (Leningrad, Physical-Technical Institute, AS USSR)

SUBMITTED: July 11, 1957

1. Particle accelerators--Design 2. Particle beams--Focusing

Card 4/4

24.4000

75328
SOV/57-29-10-5/18

AUTHORS: Kel'man, V. M., Peregud, B. P., Skopina, V. I.

TITLE: A Short Magnetic Lens With a Distributed Winding

PERIODICAL: Zhurnal tekhnicheskoy fiziki, 1959, Vol 29, Nr 10, pp 1219-1224 (USSR)

ABSTRACT: The paper describes construction and design of short magnetic lenses with distributed windings, to be used with a β-spectrometer having an electro-optical circuit analogous to that of an optical prismatic spectrometer [Ref 1, 2]. Such lenses are considerably lighter than those having a standard winding, they use less power for their operation, and do not require any alignment with the axis of the vacuum tube. The nearer the center of the vacuum tube the coil is, the longer it is, the number of turns of each of the concentric windings increasing towards the transverse axis. The calculation of distribution of ampere-turns density may be made for any desired distribution of the magnetic field. To this purpose the equation given by Glaser [Ref 3] is used, the equation, written in terms of Hankel functions, representing an expression

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for the calculation of required ampere-turns in the coil winding. In line with the proposed design the authors designed and constructed three such lenses. These were tested in a spectrometer, and the data obtained by measurement are compared in curve form with the calculated values. The method of measurements made is not described, but it is stated that the accuracy obtained was ±0.3%. For the lenses tested the magnetic field leakage was 10 times smaller than in standard lenses; it may be reduced still further by proper screening. When screening of lenses with distributed winding was used, the vertical component of the earth magnetic field was reduced by a factor of 15. A table is given in which are shown the design data of the lenses discussed in the paper as well as those of a standard lens of equal magnification. The table shows that the number of turns of a lens with a distributed winding, the power it uses, and its weight are smaller than, and that the current density is greater than, those in a standard lens. There are 7 figures and 3 references, 2 Soviet, 1 British.

ASSOCIATION: Institute for Technical Physics, Academy of Sciences, USSR (Fiziko-tekhnicheskiy institut, AN SSSR).

SUBMITTED: April 7, 1959

Card 2/2

21.2000,24.2000

77307
SOV/57-30-2-4/18

AUTHORS: Kel'man, V. M., Peregud, B. P., Dolmatova, K. A., Luzyanin, I. D.

TITLE: Vertical Focusing of an Electron Beam Using Cylindrical Magnetic Lenses in an Axially Symmetrical Radially Increasing Magnetic Field

PERIODICAL: Zhurnal tekhnicheskoy fiziki, 1960, Vol 30, Nr 2, pp 153-158 (USSR)

ABSTRACT: Kel'man and others (ZhTF, XXVIII, 1056, 1958) and Vandakurova (ZhTF,XXVIII, 1065, 1958) showed that radially arranged magnetic lenses may produce a vertical focusing of electrons moving in nearly circular, or spiral, orbits. The present paper describes experimental investigation of an electron motion in a radially increasing magnetic field whose defocusing effects are compensated by means of cylindrical magnetic lenses. Two equal ring-shaped flat coils (1) are producing the required field (see Fig. 1).

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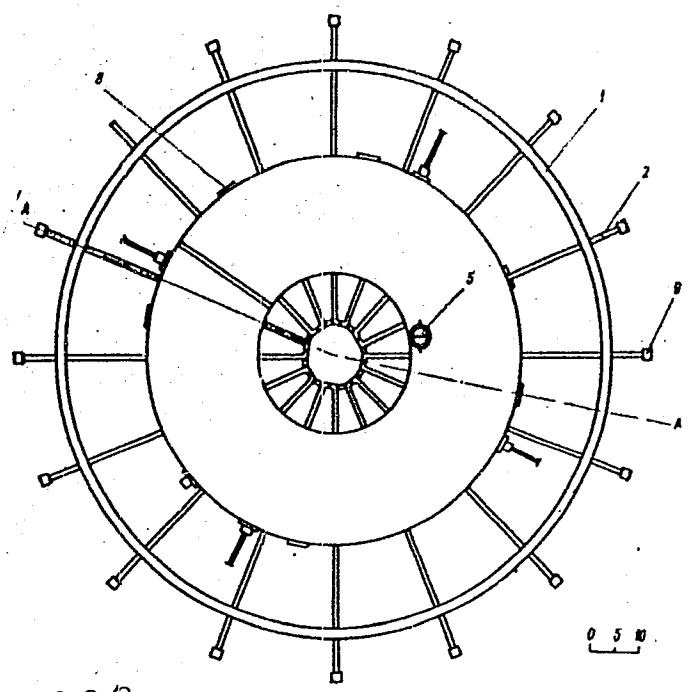

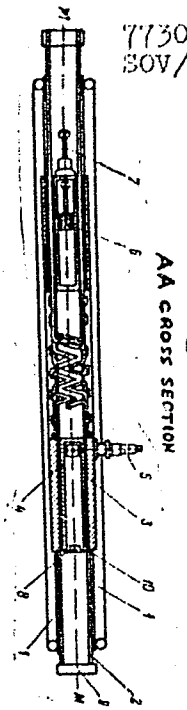

Fig. 1 (Caption on Card 3/8)

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Vertical Focusing of an Electron Beam Using Cylindrical Magnetic Lenses in an Axially Symmetrical Radially Increasing Magnetic Field

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Fig. 1. Diagram of experimental setup. (1) Coils of guiding field; (2) focusing systems; (3) holders; (4) chamber; (5) injector; (6) screen; (7) rod; (8) window; (9) jumper; (10) insulation.

Experiments were performed with two pairs of coils with a mean radius of 55 and 35 cm. The spacial arrangement of the focusing system (2) is shown on Fig. 4.

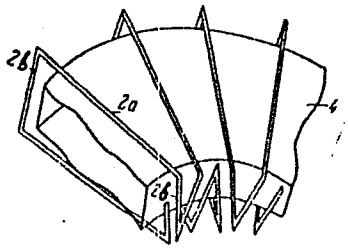

Fig. 4. Focusing system (schematic diagram). (2a) Copper rod; (2b) vertical jumper; (4) chamber.

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As seen, the entire system is a continuous circuit. The direction of horizontal field components of adjacent magnetic lenses is opposite. The vacuum chamber (4) has an inner radius of 17 cm and an outer of 35 cm. It is 2 cm high. The betatron injector 5 is of standard type with deflector 18 cm from the axis of the system. It could be rotated in the horizontal and vertical plane. The angle of divergence of the beam is 5°. The path of the beam was observed by means of willemite covered screens, while for intensity measurements the screens were replaced by copper plates, and the resulting inhibiting radiation was measured by means of Geiger counters through thin windows covered with thin organic glass (see Fig. 5. The injection was continuous by means of a constant 4 to 8 kv potential. In the case of the 35 cm coil of the guiding field with 8 kev electrons and 1,400

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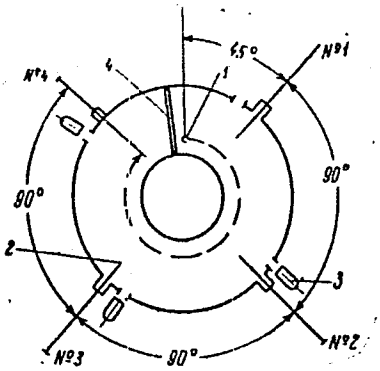

Fig. 5. Diagram of the distribution of screens and end-counters: (1) injector; (2) screen; (3) counter; (4) plate shielding the scattered X-ray radiation.

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ampere-turns on the coils, the authors found on the screen Nr 4 the beam to be well focused in the radial direction but completely out of focus in the vertical direction. A 300 a current in the focusing device reduced the beam to an approximate circle of 3 mm diam. The screen was at a distance of 24 cm from the axis of symmetry. The authors used the 55 cm coil to measure the average intensity at a fixed equilibrium orbit. The results are on Figs. 8 and 9. On Fig. 9, N_2 and N_4 are the counting rate intensities from the radiations originating at the screens Nr 2 and Nr 4. One sees that while without focusing the intensity after one half of a turn drops more than 13 times; for currents of more than 300 a the ratio is of the order of unity. There are 9 figures; and 2 Soviet references.

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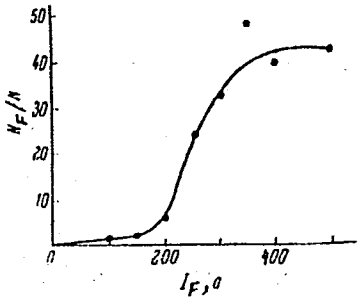

Fig. 8. Beam intensity versus current intensity in the focusing system at an angular distance of 135° from the injector. N_F = intensity of counting rate at a current I_F; N = intensity of counting rate at $I_F = 0$.

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Vertical Focusing of an Electron Beam Using Cylindrical Magnetic Lenses in an Axially Symmetrical Radially Increasing Magnetic Field

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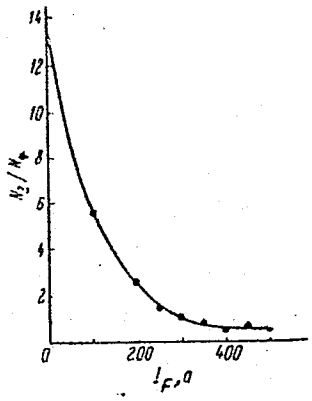

Fig. 9. N_2/N_4 ratio versus focusing current intensity I_F.

ASSOCIATION: Physico-Technical Institute AS USSR Leningrad (Fiziko-tekhnicheskiy institut AN SSSR Leningrad)

SUBMITTED: August 27, 1959

Card 8/8

KEL'MAN, V.M.; PEREGUD, B.P.; SKOPINA, V.I.

Universal precision β-spectrometer. Atom.energ. 10 no.5:534-536 My '61. (MIRA 14:5)

(Spectrometer)

S/048/62/026/012/007/016
B117/B186

AUTHORS: Grigor'yev, Ye. P., Peregud, B. P., Sergeyev, V. O., and Skopina, V. I.

TITLE: Decay of Tu^{166}

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 26, no. 12, 1962, 1488 - 1491

TEXT: A check was carried out on the divergent statements on Tu^{166} decay in papers by Harmatz (B. Harmatz, T. H. Handley, J. W. Mihelich, Phys. Rev., 123, 1758 (1961)) and Grigor'yev (Ye. P. Grigor'yev, K. Ya. Gromov, B. S. Dzhelepov, Zh. T. Zhelev, V. Zvol'ska, I. Zvol'skiy, Izv. AN SSSR. Ser. Fiz., 25, 1217 (1961)). The quantum characteristics of the upper levels of Tu^{166} were determined more accurately. Experiments using a double focusing β-prism spectrometer and a γ-scintillation spectrometer confirmed as correct the results obtained by Grigor'yev et al. for the energies of the transitions and for the relative intensities of the conversion lines. The two high levels with energies of 2134 and 2161 kev are heavily occupied when Tu^{166} captures electrons; their γ-transitions both take place to the

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same lower-lying level of Er^{166}. To determine their exact characteristics, the multipole orders of the γ-transitions with energies of 2054 and 2081 kev were calculated from the conversion coefficients α_K. It was shown that agreement between theoretical and experimental values is possible only if both transitions, or at least the one with an energy of 2054 kev, have a multipole order of M2. Transitions with an energy of 2054 kev take place from the 2134 kev energy level to the 2^+ level of the first rotational band. The 2134 kev energy level was assumed to have odd parity and, most probably, a spin of 3. This paper was read to the 12th Annual Conference on Nuclear Spectroscopy held in Leningrad from January 26 to February 2, 1962. There are 3 figures and 2 tables.

ASSOCIATION: Fizicheskiy institut Leningradskogo gos. universiteta (Physics Institute of the Leningrad State University); Fiziko-tekhnicheskiy institut Akademii nauk SSSR im. A. A. Zhdanova (Physicotechnical Institute of the Academy of Sciences USSR imeni A. A. Zhdanov)

44212

S/057/62/032/012/007/017
B104/B186

AUTHORS: Kel'man, V. M., Peregud, B. P., and Skopina, V. I.

TITLE: A precision prismatic spectrometer I. Electron-optical scheme and design

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 32, no. 12, 1962, 1446-1464

TEXT: A magnetic beta spectrometer developed in the FTI imeni A.F.Ioffe AS USSR is described which makes it possible to investigate the electron spectrum of radioactive isotopes both with great resolving power and with great aperture ratio, also determining the electron energy with great accuracy. The electron-optical system (Fig. 1) resembles that of an optical spectrometer. It is distinguished from other electron-optical systems in that focusing and energy separation of particles are effected by different units. This enables great resolving power to be combined with comparatively large solid angle, large area of source and great aperture ratio. In the gap of the deflecting magnet (Fig. 4) the field can be stabilized by a tight coupling between field strength and coil current, accurately to within 0.003%. The field strength of the magnet lenses can

Card 1/4 SEE S/057/62/032/012/008/017

be varied over a range corresponding to electron energies from 30 to 2800 kev. The vacuum system comprises a vacuum chamber for the source, two tubelike vacuum chambers for the collimator lens and the focusing lens, a chamber for the deflecting magnet and another for the counters. Within an accuracy of 0.01%, a stabilizer keeps the current constant in a range from 0.02 to 3 a for 20 minutes. The electrons passing through the slit can be registered either by two G.M. counters working in coincidence or by counters placed at a distance of 750 mm from the slit. An automatic system controls the spectrometer according to a fixed program and records the results on a paper tape. There are 11 figures.

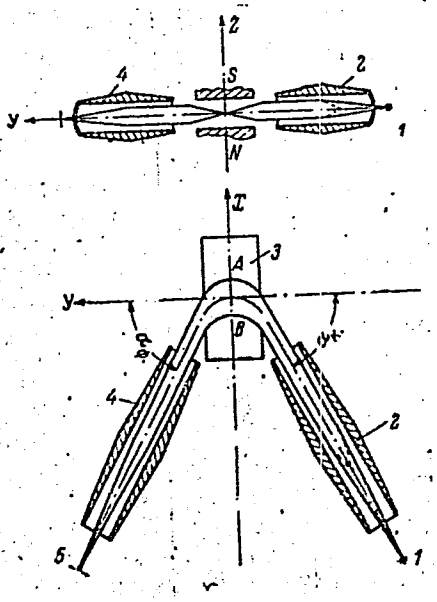
ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe AN SSSR, Leningrad (Physicotechnical Institute imeni A. F. Ioffe AS USSR, Leningrad)

SUBMITTED: July 18, 1962

A precision prismatic spectrometer...

Fig. 1. Electron-optical system.

Legend: (1) radioactive source, (2) collimator lens, (3) deflecting magnet, (4) focusing magnet, (5) slot



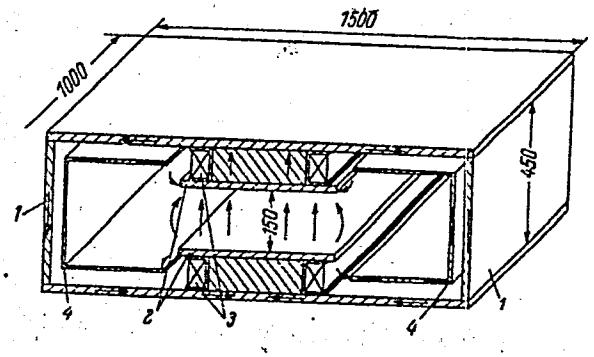
Card 3/4

A precision prismatic spectrometer...

S/057/62/032/012/007/017
B104/B186

Fig. 4. Cross section of a deflecting magnet.

Legend: (1) yoke of the magnet, (2) pole shoes, (3) coil, (4) shield.



Card 4/4

44213

S/057/62/032/012/008/017
B104/B186

24.6800

AUTHORS: Kel'man, V. M., Peregud, B. P., and Skopina, V. I.

TITLE: A precision prismatic spectrometer. II. Resolving power, aperture ratio, accuracy of measuring energy and relative intensities .

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v.32, no. 12, 1962, 1465-1476

TEXT: The properties of a prismatic beta-spectrometer designed in the FTI imeni A. F. Ioffe AS USSR (Zhurnal tekhnicheskoy fiziki, v. 32, no. 12, 1962, 1446-1464)[1] are described. The instrument is adjusted by means of the Ir^{192} conversion spectrum and an RdTh deposit, the rectangular source (1.5·15 mm) and rectangular slit (1.5·25 mm) being arranged symmetrically. The optimal instrument half-width is $\delta = 0.027\%$ if source and slit are 1 mm wide, the resolving power is 0.036%, if the stated above adjustment is used. Characteristics are given in Table 1. The design of the vacuum system and of the source attachment makes it possible to vary the distance between the source and the center of the collimator lens from 121 cm down to 5 cm, thereby decreasing the focal length from 127 to 28 cm. If the

A precision prismatic spectrometer...

aperture diaphragm is opened 9.9 cm the solid angle varies between 0.004 and 0.8% of 4π. If the source is brought closer to the lens, the lens current I_K and the angle φ_H through which the source must be turned in order to compensate for the rotation of the image by the magnet lenses both have to be altered (Fig. 3). In a range between 132 and 807 kev the mean line-width of the conversion spectrum lay between 0.15 and 0.21% if the source dimension was 0.6·15 mm, the source thickness 0.5 mg/cm^2 and the slit 2.5·40 mm. The aperture ratio was 0.4% of 4π in these measurements. The probable deviation ϱ of the line-width lay between 1.7 and 15%. The electron momentum was calculated from the formula

$$H_\varrho = k\left(I_T + \frac{b}{k}\right) =$$
$$= k(I_T + I_0) = (3670 \pm 2)(I_T -$$
$$- 0.0025 \pm 0.0006),$$

where H_ϱ is given in oersteds·cm and I_T in amperes. The error of the

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A precision prismatic spectrometer...

relative intensities of the conversion lines lies between 0.01 and 0.8%. There are 5 figures and 6 tables.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe AN SSSR, Leningrad (Physicotechnical Institute imeni A. F. Ioffe AS USSR, Leningrad)

SUBMITTED: July 18, 1962

Fig. 3. I_K/I_o and $\varphi_и$ as function of the distance $\xi\phi$ between source and center of lens. Legend: (1) I_K/I_o, (2) $\varphi_и$.

Table 1. (a) symmetrical variant, (b) great aperture ratio, (1) focal length in cm, (2) dimensions of the aperture diaphragm in cm^2, (3) Ω in % of 4π, (4) source dimensions in mm, (6) aperture ratio, cm^2, (7) $\delta=\Delta(HQ)/(HQ)$, %.

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A precision prismatic spectrometer...

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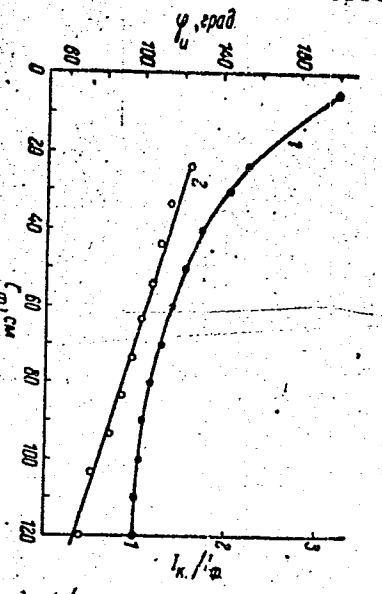

Fig. 3

Table 1

	Размеры апертурной диафрагмы, см²	Ω, % от 4π	Размеры источника, мм²	Ширина приемной щели, мм	Светосила (произвед. Ω на площадь ист.), см²	$\delta = \frac{\Delta(H\rho)}{(H\rho)}$, %
(1)	(2)	(3)	(4)	(5)	(6)	(7)
(a) 127	3×3	0.0045	0.4×15	0.4	$3 \cdot 10^{-6}$	0.014
127	5×5	0.012	0.4×15	0.4	$7 \cdot 10^{-6}$	0.022
127	9×9	0.04	1.0×15	1.0	$6 \cdot 10^{-5}$	0.036
73	9×9	0.12	2.0×15	2.5	$3 \cdot 10^{-4}$	0.10
(b) 42	9×9	0.37	1.5×15	2.5	$8 \cdot 10^{-4}$	0.14
28.5	9×9	0.79	1.0×15	2.5	$12 \cdot 10^{-4}$	0.20

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KEL'MAN, V.M.; LEVCHENKO, S.I.; LUZYANIN, I.D.; PEREGUD, B.P.

Vertical focusing of an electron beam by cylindrical magnetic lenses in an axially symmetrical radially rising magnetic field. Zhur. tekh.fiz. 34 no. 2:320-325 F '64. (MIRA 17:6)

1. Fiziko-tekhnicheskiy institut imeni A.F.Ioffe AN SSSR, Leningrad.

ACCESSION NR: AP4043543 S/0020/64/157/004/0837/0840

AUTHOR: Peregud, B. P.; Abramova, K. B.

TITLE: Experimental investigation of electrical explosion

SOURCE: AN SSSR. Doklady*, v. 157, no. 4, 1964, 837-840

TOPIC TAGS: electrical explosion, exploding wire, copper wire explosion, radiative explosion

ABSTRACT: The electric explosion of copper wires was investigated at the Physicotechnical Institute im. A. F. Ioffe of the Academy of Sciences SSSR. Particular attention was paid to the energy aspect of the process, the behavior of the accompanying radiation, and the threshold conditions of electric explosion. This article presents the most essential results. To establish the nature of conditions under which the explosion occurs, a series of experiments was carried out using a 0.5-mm diameter and a 70-mm long copper wire in air under atmospheric pressure. The circuit was driven by a 400-μf capacitor bank. The natural frequency of the test circuit was 6 kc.

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ACCESSION NR: AP4043543

The phenomena which occurred in the wire at condenser voltages up to 1150v (265 joules) were not explosive in character. When the voltage was increased to 1200v (290 joules) the wire was pulverized to a great degree although it failed to vaporize, mainly because the input energy of 290 joules was only one half of the energy of sublimation of the wire. A further increase in the input had no qualitative effect on the behavior of the process. A detailed spectroscopic investigation of the light spectrum of the first flare was made at an input energy of 550 joules (at 2000v) which corresponds approximately to the energy of sublimation of the wire. It was found that the maximum intensity of light occurred at wavelength $\lambda = 1.4\ \mu$. The diameter of the wire changed little until the second light pulse. Although the energy dissipated by light during this stage of the process was 0.3 joules, which was 150 times higher than the radiation of an absolute black body with dimensions of the test wire at T = 2000K, it comprised only 0.05% of the input. Since the second intensive light pulse occurs 20 μsec after the first one, it is apparent that the input energy approximately equals the sublimation energy and cannot be dissipated by the wire in 20 μsec, although the thermal equilibrium

Card 2/3

ACCESSION NR: AP4043543

should have been achieved in a time of the order of 10^{-12} sec. When the input and sublimation energies are equal, no total vaporization can occur since a portion of input energy is dissipated in radiation and fragmentation during the second light pulse. When the applied voltage was increased to 2—2.2 kv, the potential difference across the capacity was sufficient to restore the current through the inter-electrode gap. The authors give a detailed analysis of the behavior of visible and infrared emission as a function of current pulse amplitude and frequency. "The authors extend their deep gratitude to Academician B. P. Konstantinov for his interest in and constructive discussion of this work." Orig. art. has: 1 figure.

ASSOCIATION: none

SUBMITTED: 03Mar64 ATD PRESS: 3087 ENCL: 00

SUB CODE: EC, EM NO REF SOV: 003 OTHER: 003

Card 3/3

L 45914-66 EWT(1) AT
ACC NR: AP6028617 SOURCE CODE: UR/0057/66/036/008/1426/1434

AUTHOR: Abramova, K.B.; Alechyan, G.A.; Peregud, B.P.

ORG: Physicotechnical Institute im. A.F.Ioffe, AN SSSR, Leningrad (Fiziko-tekhnicheskiy institut AN SSSR)

TITLE: Investigation of a system with a toroidal magnetic field increasing toward the periphery (the "Tornado" trap)

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 8, 1966, 1426-1434

TOPIC TAGS: plasma confinement, magnetic field, magnetic trap, topology, SPHERIC SHELL STRUCTURE, WEAK MAGNETIC FIELD, STRONG MAGNETIC FIELD

ABSTRACT: The authors have investigated the magnetic fields produced by conductors having the configurations shown in the drawings, figures 1 and 2. The investigations were undertaken in an effort to realize with ordinary conductors the fields having toroidal topology and containing an inner region of low field strength which G.V. Skornyakov (ZhTF, 32, 261, 777, 1494, 1962; Yadernyy sintez, 2, 1962; Nucl. Eng.1966) has shown to be possible within a superconducting sphere. The device shown in figure 1 (Tornado I) consisted of an 18.5 cm diameter copper spherical shell of 8 mm wall thickness containing a 14 turn helix of 8 mm diameter Armco iron rod separated from the copper shell by a 1 cm gap. The fields within the devices under low frequency excitation were mapped with probes. In the devices of both types the central region was separated from all the conductors by regions of enhanced field strength. The time during which a high strength field can be maintained depends on the inertia of the

Card 1/2 UDC: 533.9

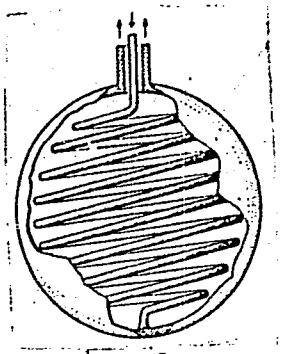


Fig.1

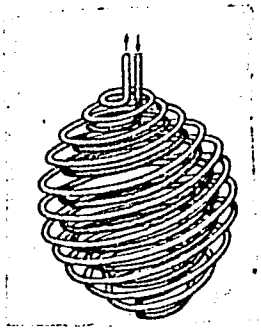


Fig.2

inner helical winding, which ultimately collapses under the electrodynamic forces. The inner helix resisted collapse for 5 to 8 milliseconds under currents that produced a maximum field strength of about 20 kOe. Further investigation of the possibilities of the devices for plasma containment will require filling them with plasma, which, the authors point out, it is not simple to do. The "Tornado" installation has been built for investigation of plasma confinement in devices of the type discussed here. The authors thank G.V.Skornyakov and V.Ye.Golant for many fruitful discussions.
Orig. art. has: 10 figures.

SUB CODE: 20 SUBM DATE: 22Nov65 ORIG. REF: 006 OTH REF: 003

L 23041-66 FSS-2/EWT(1)/EWP(m)/EWT(m)/EPF(n)-2/EWA(d)/T-2/EWP(t)/EWP(k)/EWA(h)/
ACC NR: AP6011426 EWA(1) IJP(c) SOURCE CODE: UR/0020/66/167/004/0778/0781
JD/WW/JW/HW/JG

AUTHOR: Abramova, K. B.; Valitskiy, V. P.; Vandakurov, Yu. V.; Zlatin, N. A.; Peregud, B. P.

ORG: Physicotechnical Institute im. A. F. Ioffe, Academy of Sciences SSSR (Fiziko-tekhnicheskiy institut Akademii nauk SSSR)

TITLE: Magnetohydrodynamic instabilities in an electrical explosion

SOURCE: AN SSSR. Doklady, v. 167, no. 4, 1966, 778-781

TOPIC TAGS: exploding wire, electrical explosion

ABSTRACT: The disintegration mechanism of an electrically exploded conductor was investigated experimentally by the method of pulse x-raying. The arrangement made it possible to obtain four exposures of 0.1 to 0.2 μsec during each experiment at selected instants from the beginning of current flow through the wire. Copper, tungsten, molybdenum, and lead wires and a thread of liquid lead were investigated. The experiments were prompted by the results of an earlier investigation by one of the co-authors (Abramova) showing that the threshold energy for explosion remains below that of evaporation, exceeding only the level required for melting. The data from the experiments show that two types of instabilities develop in the conductor which deform it and lead to its breakup into numerous parts. During the pre-threshold period, a helical instability was observed, which was followed by a constrictive instability accompanying the actual explosion. Both types of instabilities

Card 1/3 UDC: 534.143

L 23041-66
ACC NR: AP6011426

are apparently of magnetohydrodynamic origin. An analysis of the conditions of stability of a fluid cylinder in the magnetic field of the current flowing in it established the dependence of a dimensionless increment $\Omega = i\omega r_0\sqrt{4\pi\rho}$ on the factor $x = kr_0$ (r_0 is the radius of the cylinder, ρ is the density, and $k = 2\pi/\lambda$, λ being the wavelength of the disturbance) for two values of an integral factor m describing the mode of disturbance: m = 0 corresponding to the constrictive, and m = 1, to the helical, instability. However, the experimental values of corresponding wavelengths exceed the calculated values by approximately 2 to 3 times in the case of constrictive instability, and 70 times in the case of helical instability. The difference can be explained by the onset of helical instabilities before the fusion of the wire begins, and by the fact that the energy spent on it is much lower than that necessary for constrictive effects. Special experiments, where the input energy remained below the melting level, bent the specimens. The constrictive instability can develop, apparently, only above the melting point of the specimen. This was also confirmed by the experiments with liquid thread, where constrictive instabilities developed at a relatively low level of input energy. The mechanism of constrictive instability is attributed to the concentration of heat in the nodes of constriction, which leads to a localized evaporation of metal. Since only a small proportion of the metal is evaporated, the threshold energy may remain below the vaporization level, as was actually observed. A complete evaporation of all metal, however, may not occur even when the input energy exceeds the vaporization level. In this case, the helical instability may not have enough time to develop before fusion and evaporation set in. It is concluded that the occurrence of the "current pause" is the result of constrictive magnetohydrodynamic instability. The time constants of the instability

Card 2/3

increment were 0.2 μsec for copper wire and 0.1 μsec for lead wire. The experiments with molybdenum and tungsten wires showed definitely that the destruction is due solely to m = 0 (i.e., constrictive) instabilities. The current, however, after reaching the maximum, drops to 1/2 to 1/3 of its peak value, and after a while rises to a second maximum. Since instability develops after the first peak value of the oscillatory discharge, the conductivity drop at the end of the first pulse cannot be explained by the onset of instability. Orig. art. has: 3 figures. [FP]

SUB CODE: 20/ SUBM DATE: 19May65/ ORIG REF: 003/ OTH REF: 004/ ATD PRESS: 4234

L 29445-66 EWT(1) GW

ACC NR: AR5023001 SOURCE CODE: UR/ 0269/65/000/008/0047/0048

AUTHOR: Peregudov, F. I.; Marinenko, V. A.; Yanyushkin, V. L.

TITLE: Automatic radar station for meteor activity registry

SOURCE: Ref. zh. Astronomiya, Abs. 8.51.425

REF SOURCE: Tr. Tomskogo in-ta radioelektron. i elektron. tekhn., v. 3, 1964, 98-103

TOPIC TAGS: astronomic data, meteor observation, radar station

ABSTRACT: Considerations of a general character were expressed regarding the possible parameters of a meteor registry automatic radar station, whose installation on USSR territory is planned in the near future as part of the regular meteor patrol service; a block-diagram on the installation was proposed. On the basis of the proposed block-diagram, a radar station operating on a 4.2 m wave was constructed. In order to check on the accuracy of its system, several observations were made in conjunction with observations made by a station operating on a 10 m wave and giving more extensive statistical data. The results of both observations are given in a table and show that data on the

UDC: 523.164.8

Card 1/2

L 29445-66

ACC NR: AR5023001

meteor activity as registered on 4.2 and 10 m waves are in basic agreement. A deduction was made regarding the applicability of the proposed installation as part of the meteor patrol service.

SUB CODE: 03/ SUBM DATE: none

Card 2/2

PEREGUD, G. M.

"A Symptom of Thrombus in the Walls of a Blood Vessel in the Signoid and Transverse Sinus", Vest. Oto-rino-laringol., No. 1, 1948. Chkalov. Med. Inst., -cl948-.

PEREGUD, G.M., kandidat meditsinskikh nauk

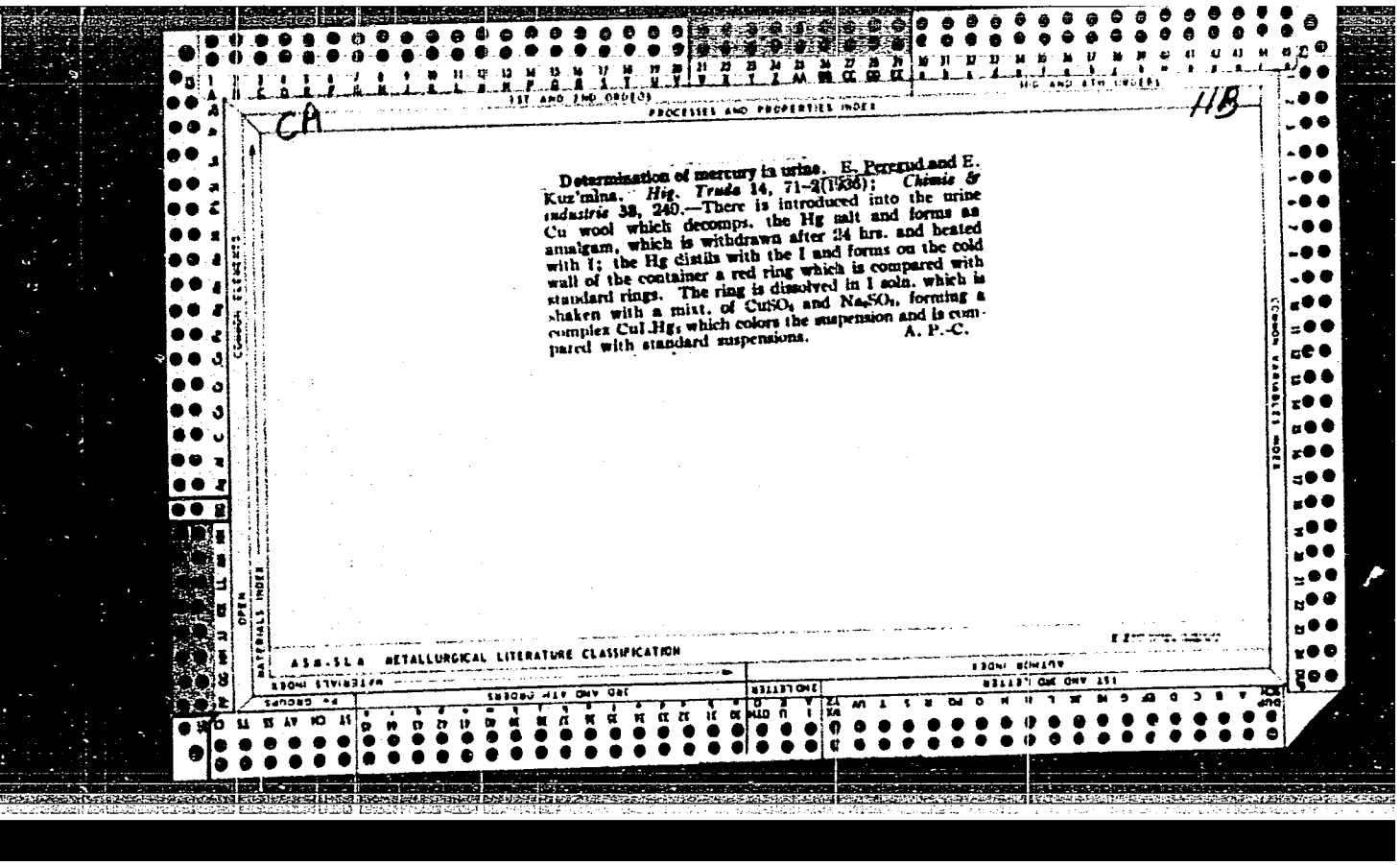
Surgical treatment of median cysts and fistulas of the neck. Vest. oto-ren. 18 no.3:57-60 My-Je '56. (MLRA 9:8)

1. Iz kafedry bolezney ukha, gorla i nosa (zav. prof. A.O.Shul'ga) Chkalovskogo meditsinskogo instituta

(NECK, fistula,
surg. (Rus))
(FISTULA,
neck, surg.)

PEREGUD, M.S., inchener; LEMENOVSKIY, A.S., gvardii inzhener-podpolkovnik, redaktor; KUZ'MIN, I.F., tekhnicheskiy redaktor

[Planning the relief of airfields; therory and method.] Proektirovanie rel'efa letnykh polei; teoriia i metody. Moskva, Voen.izd-vo Ministerstva vooruzhennykh sil SSSR, 1947. 95 p. (MLRA 9:11)
(Airports)



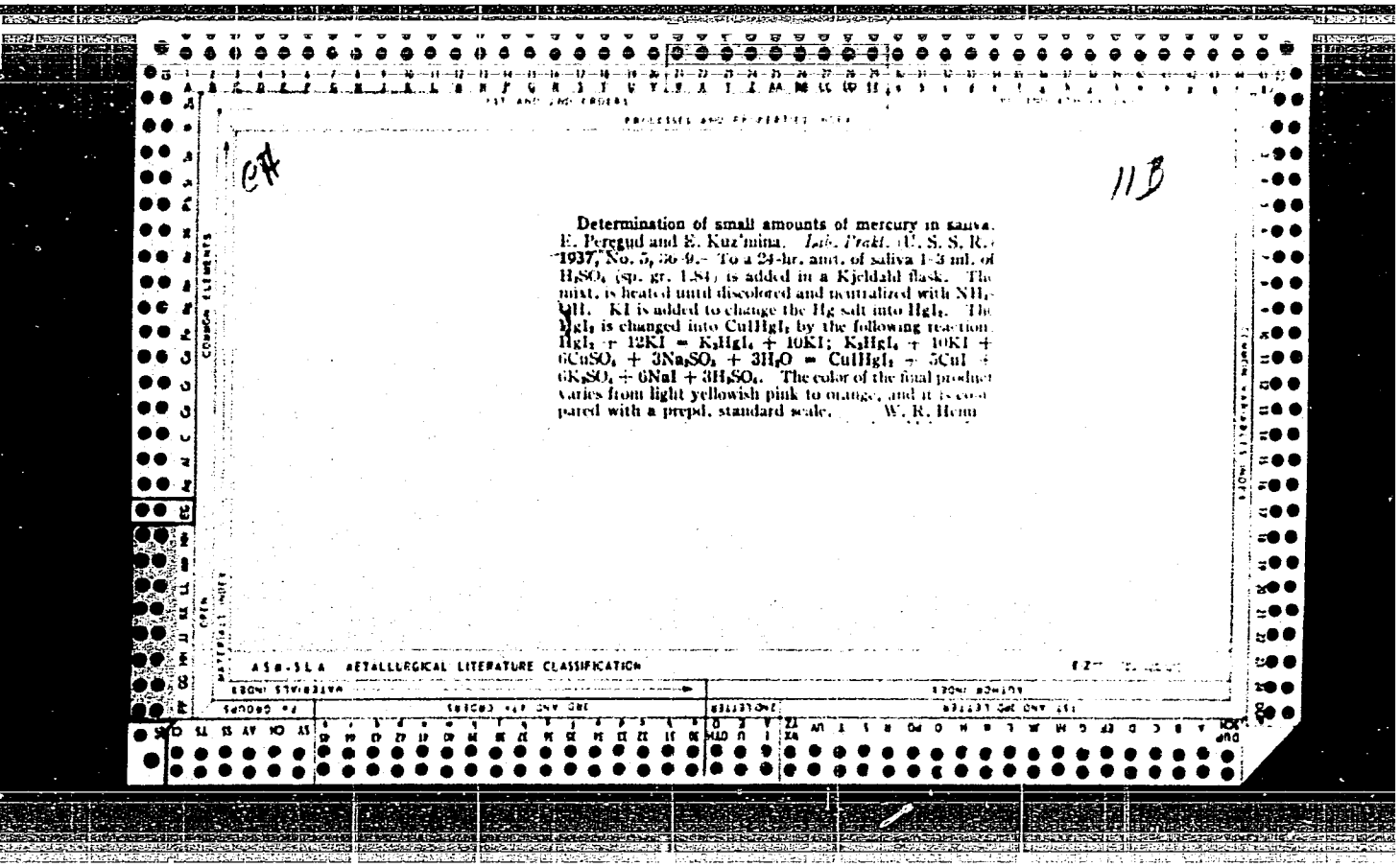
CA

HB

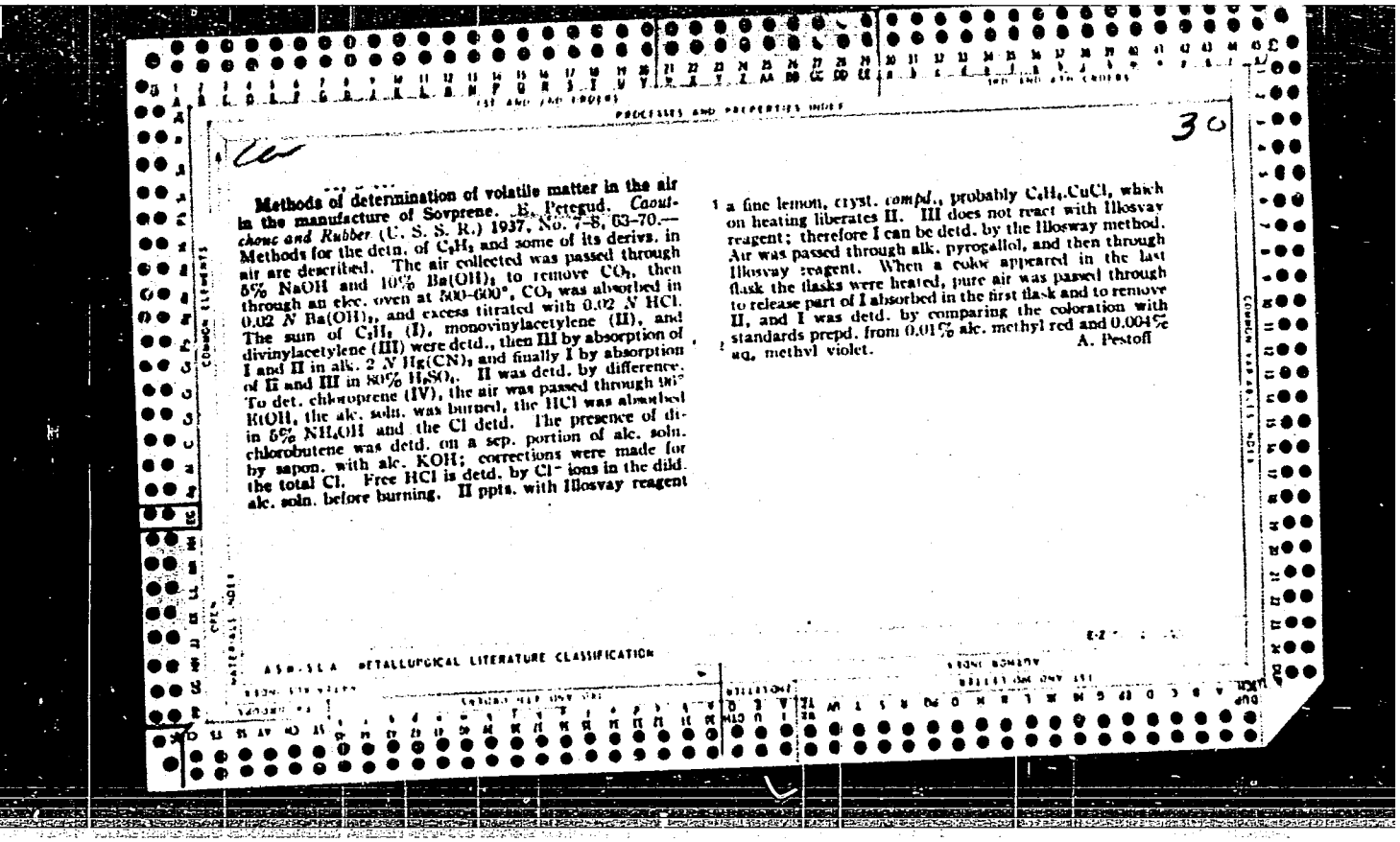
PROCESSES AND PROPERTIES INDEX

Determination of mercury in urine. E. Perraud and E. Kuz'mina. *Hig. Truda* 14, 71–2(1936); *Chimie & industrie* 38, 240.—There is introduced into the urine Cu wool which decomps. the Hg salt and forms an amalgam, which is withdrawn after 24 hrs. and heated with I; the Hg distils with the I and forms on the cold wall of the container a red ring which is compared with standard rings. The ring is dissolved in I soln. which is shaken with a mixt. of $CuSO_4$ and Na_2SO_3, forming a complex $CuI.Hg$; which colors the suspension and is compared with standard suspensions. A. P.-C.

A58-SL4 METALLURGICAL LITERATURE CLASSIFICATION

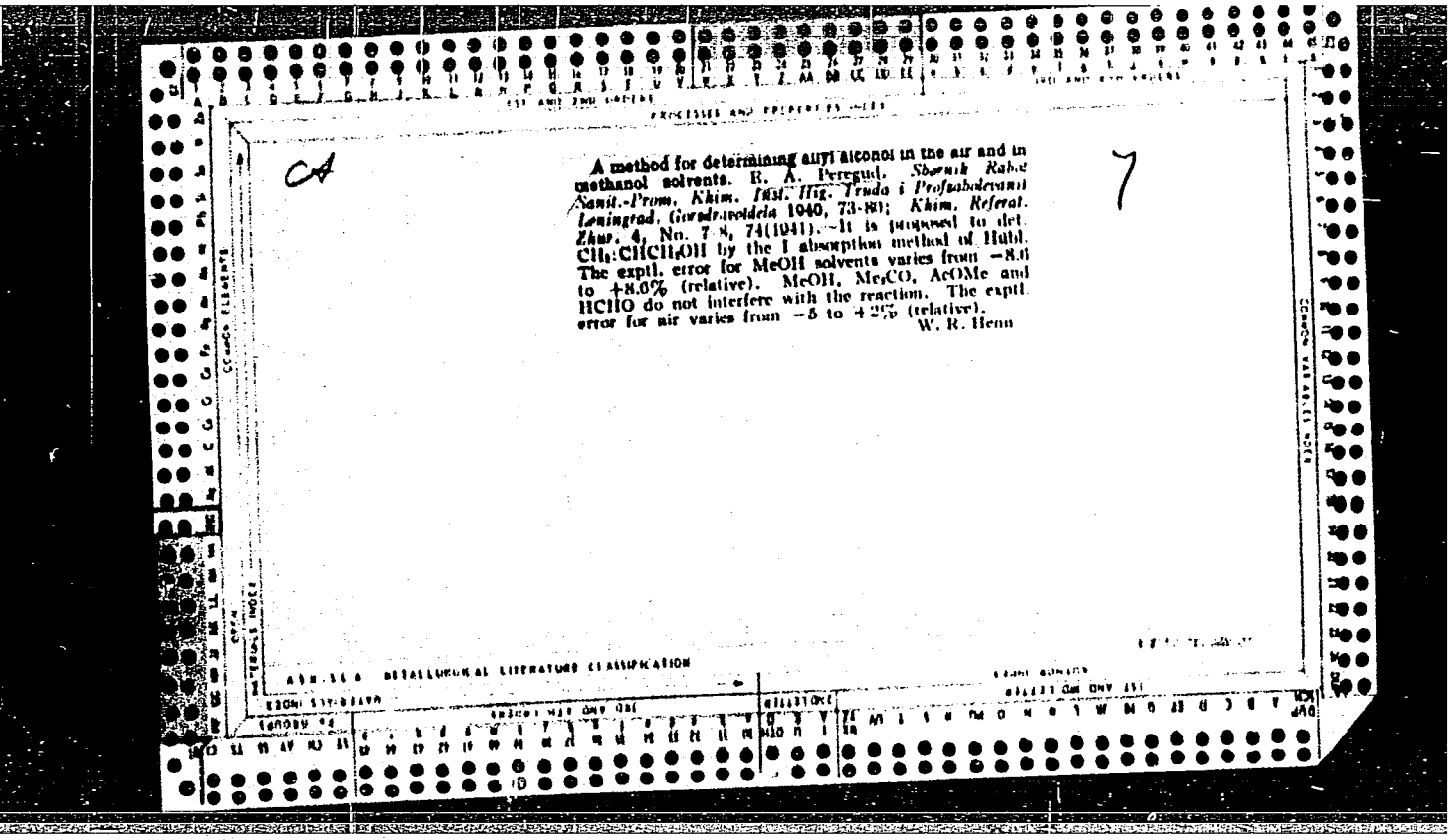


Determination of small amounts of mercury in saliva. E. Peregud and E. Kuz'mina. *Lab. Trakt.* (U. S. S. R.) 1937, No. 5, 38-9.— To a 24-hr. amt. of saliva 1-3 ml. of H_2SO_4 (sp. gr. 1.84) is added in a Kjeldahl flask. The mixt. is heated until discolored and neutralized with NH_4OH. KI is added to change the Hg salt into HgI_2. The HgI_2 is changed into $CuIHgI_2$ by the following reaction: $HgI_2 + 2KI = K_2HgI_4$; $K_2HgI_4 + 10KI + 6CuSO_4 + 3Na_2SO_3 + 3H_2O = CuIHgI_2 + 5CuI + 6K_2SO_4 + 6NaI + 3H_2SO_4$. The color of the final product varies from light yellowish pink to orange, and it is compared with a prepd. standard scale. W. R. Henn



Methods of determination of volatile matter in the air in the manufacture of Sovprene. E. Petegud. *Caoutchouc and Rubber* (U. S. S. R.) 1937, No. 7–8, 63–70.—Methods for the detn. of C_4H_6 and some of its derivs. in air are described. The air collected was passed through 5% NaOH and 10% $Ba(OH)_2$ to remove CO_2, then through an elec. oven at 500–600°, CO_2 was absorbed in 0.02 *N* $Ba(OH)_2$, and excess titrated with 0.02 *N* HCl. The sum of C_4H_6 (I), monovinylacetylene (II), and divinylacetylene (III) were detd., then III by absorption of I and II in alk. 2 *N* $Hg(CN)_2$, and finally I by absorption of II and III in 80% H_2SO_4. II was detd. by difference. To det. chloroprene (IV), the air was passed through 30% KOH, the alc. soln. was burned, the HCl was absorbed in 5% NH_4OH and the Cl detd. The presence of dichlorobutene was detd. on a sep. portion of alc. soln. by sapon. with alc. KOH; corrections were made for the total Cl. Free HCl is detd. by Cl^- ions in the dild. alc. soln. before burning. II ppts. with Ilosvay reagent as a fine lemon, cryst. *compd.*, probably $C_4H_4.CuCl$, which on heating liberates II. III does not react with Ilosvay reagent; therefore I can be detd. by the Ilosway method. Air was passed through alk. pyrogallol, and then through Ilosvay reagent. When a color appeared in the last flask the flasks were heated, pure air was passed through to release part of I absorbed in the first flask and to remove II, and I was detd. by comparing the coloration with standards prepd. from 0.01% alc. methyl red and 0.004% aq. methyl violet.

A. Pestoff



CA 7

A method for determining allyl alcohol in the air and in methanol solvents. R. A. Peregud. *Sbornik Rabot Sanit.-Prom. Khim. Inst. Ilig. Truda i Profzabolevanii Leningrad, Gosudarstvoldela* 1940, 73-80; *Khim. Referat. Zhur.* 4, No. 7-8, 74(1941).—It is proposed to det. $CH_2{:}CHCH_2OH$ by the I absorption method of Hubl. The exptl. error for MeOH solvents varies from −8.0 to +8.0% (relative). MeOH, Me_2CO, AcOMe and HCHO do not interfere with the reaction. The exptl. error for air varies from −5 to +2% (relative).
W. R. Henn

PEREGUD, YE. A. PA 16T44

USSR/Medicine - Mercury May 1947
Medicine - Manganese and
Manganese Compounds

"Manganese Dioxide as an Antidote for Mercury," Ye. A. Peregud, Institute of Labor Hygiene and Occupational Diseases of the Academy of Medical Sciences of USSR, 3 pp

"Gigiyena i Sanitariya" Vol XII, No 5

General discussion concluding, among other things, that the effect of degassing by the means advocated at the present time are temporary and unstable. Application of other, even more active agents than mercury does not guarantee the right effect, and has a temporary validity.

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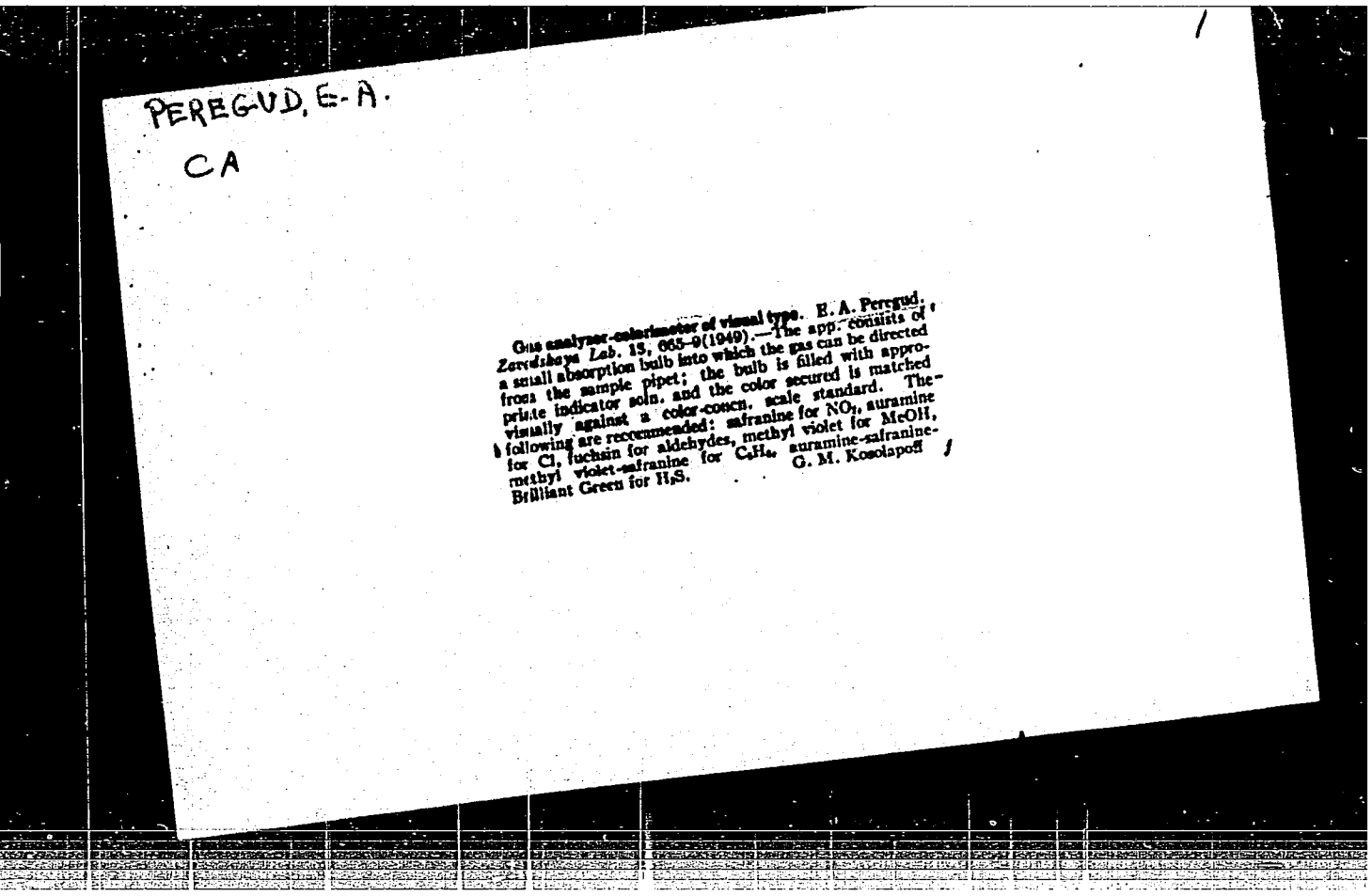
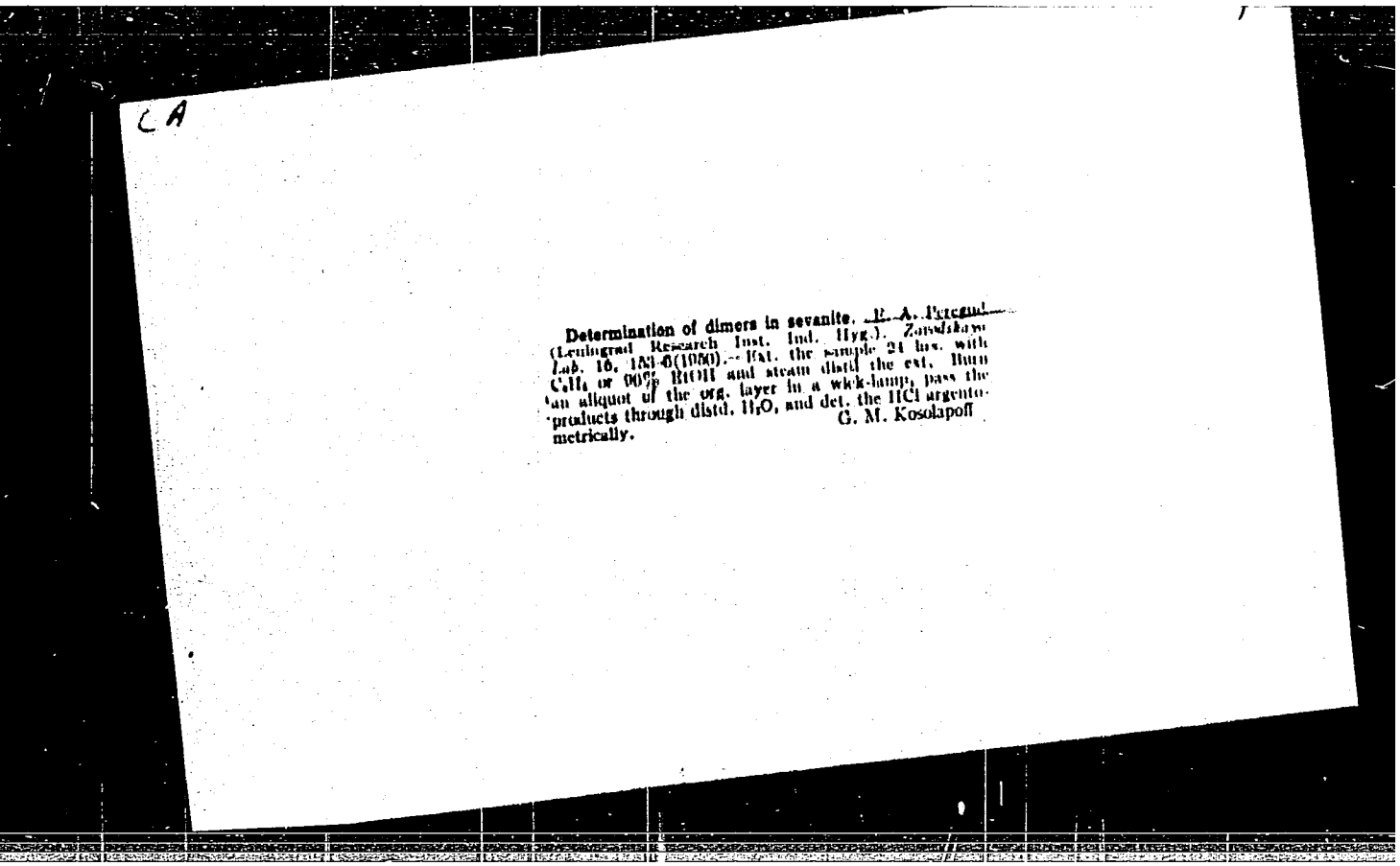


PEREGUD, E-A.

CA

Gas analyzer-colorimeter of visual type. E. A. Peregud. *Zavodskaya Lab.* 15, 965–9(1949).—The app. consists of a small absorption bulb into which the gas can be directed from the sample pipet; the bulb is filled with appropriate indicator soln. and the color secured is matched visually against a color-concn. scale standard. The following are recommended: safranine for NO_2, auramine for Cl, fuchsin for aldehydes, methyl violet for MeOH, methyl violet-safranine for C_6H_6, auramine-safranine-Brilliant Green for H_2S. G. M. Kosolapoff



CA

Determination of dimers in sevanite. R. A. Pyrcau (Leningrad Research Inst. Ind. Hyg.). Zavodskaya Lab. 16, 1381-6(1950).—Hat. the sample 24 hrs. with CaH_2 or 90% RtOH and steam distil the ext. Hum an aliquot of the org. layer in a wick-lamp, pass the products through distd. H_2O, and det. the HCl argentometrically. G. M. Kosolapoff

PEREGUD, Ye.A.; BOYKINA, B.S.

Determination of vapors of fluoorganic compounds in air. Zhur. Anal. Khim. 8, 178-81 '53. (MLRA 6:5)
(CA 47 no.20:10409 '53)

1. State Sci. Research Inst. Ind. Hyg. & Occupational Hazards, Leningrad.

PEREGUD, E.A.

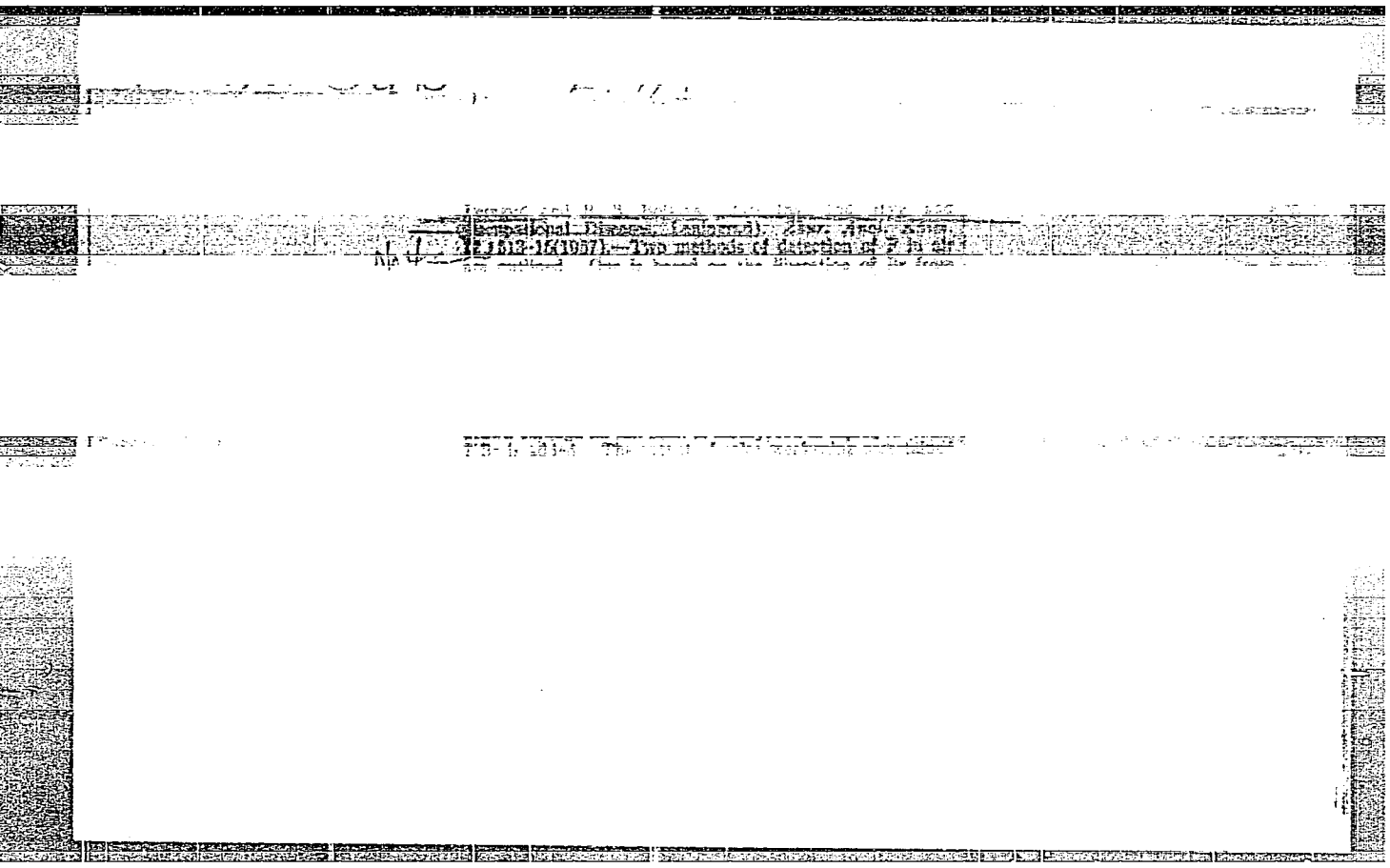
(3)

Method of determining alkylchlorosilane vapors in air. E. A. Peregud and N. P. Kozlova (Leningrad State Sci.-Research Inst. Ind. Hyg. and Occupational Diseases). *Zhur. Anal. Khim.* 9, 47–50(1954).—Draw 5–10 l. of air through 2 microabsorbers charged with 5 ml. concd. H_2SO_4 and connected in series. The rate of passing the air should be uniform and not exceeding 5 l./hr. Transfer the contents of the absorbers separately into Pt crucibles, heat on a sand bath gradually until H_2SO_4 fumes are driven off, add 0.1 g. of $NaKCO_3$ and 3 ml. H_2O, mix, evap. to dryness, and fuse. Leach the product 3 times with 5 ml. of hot H_2O, transfer to a glass flask, carefully acidify to litmus with *N* H_2SO_4, and heat to expel CO_2. Add H_2O to make 20 ml., transfer 4 ml. to a colorimeter tube, add 0.1 ml. of NH_4-molybdate reagent, shake, and after 5 min. add (while shaking) 1 ml. of 5% tartaric acid and 0.1 ml. of 1% ascorbic acid. After 30 min. compare the color with standards similarly prepd. Run a blank. M. Hoseh

PEREGUD, E.A.

Fluorine is determined by combustion of the organic component in a quartz tube and determining the Si combined with F as SiF_4. The method is applicable

Determination of nitro paraffins in air. E. A. Peregud and B. Sh. Bolkina. *Zavodskaya Lab.* 22, 292-4(1956); cf. Jones and Riddick, *C.A.* 45, 6788i.—Nitroethane, 1- and 2-nitropropanes, and 1-nitrobutane were made up into 0.1 mg./ml. solns. in concd. H_2SO_4, the solns. were made up (0.25–2 ml. of each of the above being used) to 2 ml. with H_2SO_4, shaken, and immersed in boiling water 0.5 hr.; after cooling, transferred to 25-ml. flasks with 10 ml. H_2O, neutralized with 8*N* NaOH, the aliquots were made up to 4 ml., treated with 2 ml. Griess reagent, and after 15 min. the colors were compared with standards made up with different concns. of $NaNO_2$. Max. color develops in 15 min. and stays for several days. The following empirical conversion coeffs. were found to convert the found amount of nitrite to the nitro paraffin content: nitromethane 2.66, nitroethane 5.0; 2-nitropropane 2.66, 1-nitropropane 3.5, 1-nitrobutane 3.26. Powd. KI acts as a good filter for N oxides without retaining appreciable amounts of nitro paraffins. V. M. Kosolapoff



PEREGUD, Ye.A., doktor biol.nauk, BOYKINA, B.S., nauchnyy sotrudnik

Sanitary and chemical characteristics of organic silicic polymers with special reference to polymethylsiloxanic rubber. Gig. i san. 23 no.8:66-68 Ag '58 (MIRA 11:9)

1. Iz Leningradskogo nauchno-issledovatel'skogo instituta gigiyeny truda i professional'nykh zabolevaniy.

(SILICON,
silicon rubber, sanit. aspects (Rus))
(RUBBER,
same (Rus))

PEREGUD, Ye.A.; BOYKINA, B.S.

Micromethod for the determination of oxygen fluoride. Zhur. anal.khim. 14 no.1:141-142 Ja-F '59. (MIRA 12:4)

1. State Scientific-Research Institute of Work Hygiene and Occupational Diseases.
(Oxygen fluoride--Analysis)

5.5220

77756
SOV/75-15-1-18/29

AUTHORS: Peregud, Ye. A., Stepanenko, E. M.

TITLE: New Methods for the Determination of Very Small Amounts of Ozone

PERIODICAL: Zhurnal analiticheskoy khimii, 1960, Vol 15, Nr 1, pp 96-98 (USSR)

ABSTRACT: The highly sensitive quantitative methods for the determination of ozone are based on extinction of luminescence and on change of color of silica gel satured with fuchsin, luminol, and fluorescein solution, and packed in glass tubes. The length of the extinction zone of luminescence of the luminol and fluoroscein indicating tubes treated with ozone-containing air was determined by ultraviolet lamp PRK-4. The bright-blue luminescence of the luminol indicator changes to dull green, the green-yellow luminescence of fluorescein indicator becomes colorless, and fuchsin indicator changes to blue-violet after the ozone-containing air is sucked through them. The concentration of ozone in the air

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is proportional to the length of the extinction zone in the indicating tubes. The results of experiments are given in Table 1. The determination of ozone is possible in the presence of considerable amount of nitric oxide. The presence of NO_2 becomes noticeable when its amount is 40 times greater than that of ozone in the case of luminol, and 13-6 times greater in the case of fluorescein and fuchsin. Luminol indicator is considered to be the most sensitive for ozone. There are 2 tables; and 10 references, 7 Soviet, 1 French; 1 German, 1 Indian.

ASSOCIATION: State Scientific Research Institute of Industrial Hygiene and Occupational Diseases, Leningrad (Gosudarstvennyy nauchno-issledovatel'skiy institut gigieny truda i professional'nykh zabolevaniy, Leningrad)

SUBMITTED: April 5, 1958

New Methods for the Determination of Very Small Amounts of Ozone

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SOV/75-15-1-18/29

Table 1. Relation between the length of the treated zone of indicator and the amount of ozone.

B			C			D		
E	F	G	E	F	G	E	F	G
0,8	5	0,16	1,5	5	0,30	1	3	0,33
0,9	6	0,15	1,5	5	0,38	1,75	4,5	0,40
1,1	6	0,18	1,7	5	0,34	1,95	5	0,39
1,27	12	0,11	1,75	5	0,35	2,0	7	0,28
1,6	13	0,12	3,0	9	0,33	2,56	5	0,44
1,7	11	0,15	3,2	9	0,35	3,5	9	0,39
1,75	10	0,17	3,2	10	0,32	4,0	12	0,33
2,2	10,5	0,21	3,4	9	0,38	6,4	15	0,43
3,2	27	0,12	3,5	11	0,32	8,0	19	0,42
	H	0,15	6,4	17	0,37	9,6	20	0,48
			H		0,34	10	23	0,43
							H	0,39

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New Methods for the Determination of Very Small Amounts of Ozone

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SOV/75-15-1-18/29

Key to Table 1:

(B) Luminol; (C) Fluoroscein; (D) Fuchsin; (E) Ozone; (F) Length, mm; (G) Ozone γ per mm (coefficient); (H) Average.

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PEREGUD, Ye.A., prof.; BOYKINA, B.S.

Methods of determining epichlorohydrin and 4,4'-ispropylidene-diphenol in the air. Gig. i san. 25 no.4:71-74 Ap '60. (MIRA 13:8)

1. Iz Leningradskogo nauchno-issledovatel'skogo instituta gigiyeny truda i professional'nykh zabolevaniy.
(AIR--POLLUTION) (PHENOL) (EPICHLOROHYDRIN)

PEREGUD, Yeva Abramovna; BYKHOVSKAYA, Mariya Solomonovna; GERNET, Yelena Vladimirovna; KORENMAN, I.M., doktor khim. nauk, prof., red.; ODERBERG, L.N., red.; KOGAN, V.V., tekhn. red.

[Rapid methods for the determination of noxious substances in the air] Bystrye metody opredeleniia vrednykh veshchestv v vozdukhe. Pod red. I.M.Korenmana. Moskva, Goskhimizdat, 1962. 272 p. (MIRA 15:7)
(Air--Analysis) (Gases, Asphyxiating and poisonous)

PEREGUD, Ye. A.

"Methods for determining harmful substances in the air and other media. Part I" by M. S. Bykhovskaia, S. L. Ginzburg and O. D. Khalizova. Reviewed by E. A. Peregud. Gig. truda i prof. zab. no.3:59-60 '62. (MIRA 15:4)

(AIR—ANALYSIS) (BYKHOVSKAIA, M. S.)
(GINZBURG, S. L.) (KHALIZOVA, O. D.)

PEREGUD, Ye.A.; BOYKINA, B.S.

Direct photometric method for the determination of small amounts of hydrogen fluoride. Zhur.anal.khim. 17 no.5:611-613 Ag '62. (MIRA 16:3)

1. Leningrad Institute of Work Hygiene and Occupational Diseases.
(Hydrofluoric acid) (Photometry)

PEREGUD, Ye.A.; STEPANENKO, E.S.; BOYKINA, B.S.

Determination of very small amounts of acids in air. Zhur. anal.khim. 17 no.6:770-771 S '62. (MIRA 16:1)

1. Leningradskiy nauchno-issledovatel'skiy institut gigiyeny truda i professional'nykh zabolevaniy.
(Acids) (Air--Analysis)

PEREGUD, Ye.A.; BOYKINA, B.S.

Indicator methods for the determination of nickel carbonyl in the air. Zav. lab. 29 no.6:674-675 '63. (MIRA 16:6)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut gigiyeny truda i professional'nykh zabolevaniy.
(Nickel carbonyl) (Air—Analysis)

PEREGUD, Ye.A.; GERNET, Ye.V.; KORENMAN, I.M., zasl. deyat. nauki prof., red.; PIASTRO, V.D., red.

[Chemical analysis of the air in industrial enterprises; recommended methods for determining the permissible toxic substances concentration in the air] Khimicheskii analiz vozdukha promyshlennykh predpriiatii; rekomenduemye metody opredeleniia predel'no dopustimykh kontsentratsii vrednykh veshchestv v vozdukhe. Moskva, Khimiia, 1965. 363 p. (MIRA 18:7)

ABRAMSON, M.G., kand. tekhn. nauk; ANDREYEV, A.V., inzh.; PEREGUDOV, A.A., inzh.; VLADISLAVLEV, Yu.Ye., inzh.

Experimental investigations on the construction of roller bits with diameters of 76, 97, and 112 mm. Gor. zhur. no.9:37-41 S '65. (MIRA 18:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut burovoy tekhniki, Moskva.

KONSTANTINOV, L.P., inzh.; MOKSHIN, A.S., inzh.; PEREGUDOV, A.A., inzh.; ABRAMSON, M.G., kand. tekhn. nauk; ANDREYEV, A.V., inzh.; DYUKOV, N.G., inzh.; MIRONOV, A.L., inzh.; OSIPOV, G.M., inzh.

Studying the performance of pin roller bits in strip mining and ways of improving their design. Gor. zhur. no.9:42-46 S '65. (MIRA 18:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut burovoy tekhniki, Moskva.

PEREGUDOV, A.F., inzh.

Use of flexible containers for the transportation of dry cargo in tankers. Sudostroenie 29 no.3:53-54 Mr '63. (MIRA 16:4)
(Tank vessels)

PEREGUDOV, Aleksandr Fedorovich,; BURSHTEYN, Feliks Isayevich,; KOL', A.A., red.; LAKHMAN, F.Ye., tekhn. red.

[Lowering automobile repair costs; practices of automobile repair plants of the Executive Committee of the City of Mowcow] Za snizhenie sebestoimosti remonta avtomobilei; iz opyta raboty avtoremontnykh zavodov Mosgorispolkoma. Moskva, Nauchno-tekhn. izd-vo avtotransp. lit-ry, 1958. 30 p. (MIRA 11:12)
(Automobiles--Maintenance and repair)

PROTSEROV, I.P.; PEREGUDOV, A.F.

- Eliminating the shop as a unit in reorganizing automobile repair plants of the Executive Committee of the City of Moscow. Gor. khoz. Mosk. 33 no.4:11-13 Ap '59. (MIRA 12:6)

1. Nachal'nik Upravleniya avtoremontnykh zavod i avtotekhnabzheniya Mosgorispolkoma (for Protserov). 2. Nachal'nik planovogo otdela Upravleniya avtoremontnykh zavodov i avtotekhnabzheniya Mosgori-. spolkoma (for Peregudov).
(Moscow--Automobiles--Maintenance and repair)
(Factory management)

STUDITOVA, Marionella Petrovna; PERECUDOV, A.N., otv.red.; KONDRASHINA, N.M., red.; KARABILOVA, S.F., tekhn.red.

[Automatic control of telegraph communication] Avtomatizatsiia telegrafnoi sviazi. Moskva, Gos.izd-vo lit-ry po voprosam sviazi i radio, 1959. 57 p. (MIRA 12:10)
(Telegraph) (Automatic control)

PEREGUDOV, A. N.

PA 29T102

USSR/Telegraph Terminals,
Telegraphy

Oct 1947

"Serious Defects in the Technical Operation of Telegraph Equipment," A. N. Peregudov, Engr, 1 p

"Vestnik Svyazi - Elektrosvyaz'" No 10 (91)

The remarkable increase of traffic on telegraph wires requires increased efficiency in the communications system as requested by Orders No 60 and 138 of the Ministry of Communications. In spite of these orders it has been discovered that there are some transmitting stations which are building up large backlogs of delayed messages. Much of this is caused by poorly maintained equipment, to a lesser degree, by poorly trained personnel and poor administration by the heads of the stations. The author hopes that most of these defects will be remedied in the near future.

LC

29T102

PEREGUDOV, A.N.

NOVIKOV, Vasiliy Vasil'yevich; PEREGUDOV,A.N., redaktor; BELIKOV,B.S., redaktor; SOKOLOVA,R.Ya., tekhnicheskiy redaktor

[Telegraph station supervisor] Stantsionnyi nadsmotrshchik telegrafa. Moskva, Gos.izd-vo lit-ry po voprosam sviazi i radio, 1955. 488 p. (MLRA 9:2)

(Telegraph stations)

PEREGUDOV, A.N.

Conference on the exchange of experience acquired in automatic telegraphy. Vest.sviazi 15 no.12:24-25 D '55. (MLRA 9:3)

1. Zamestitel' nachal'nika Glavnogo upravleniya mezhdugorodnoy telegrafno-telefonnoy svyazi Ministerstva svyazi SSSR.
(Telegraph--Automatic systems)

YEMEL'YANOV, G. A.; BAZILEVICH, Ye. V.; TSYGIKALS, A.I.; KIRSANOV, V.I.; PEREGUDOV, A.N., otv. red.; DOBRYNINA, A.Ya., red.; MARKOCH, K.G., tekhn. red.

[Telegraphic communication; an informational bulletin] Telegrafnaia sviaz'; informatsionnyi sbornik. Moskva, Gos. izd-vo lit-ry po voprosam sviazi i radio, 1958. 104 p. (MIRA 11:11)

1. Russia(1923- U.S.S.R.)Ministerstvo svyazi. Tekhnicheskoye upravleniye. (Telegraph)

STUDITOVA, Marionella Petrovna; PEREGUDOV, A.N., otv.red.; KONDRASHINA, N.M., red.; KARABILOVA, S.F., tekhn.red.

[Automation of telegraph communication] Avtomatizatsiia telegrafnoi sviazi. Moskva, Gos.izd-vo lit-ry po voprosam sviazi i radio, 1959. 57 p. (MIRA 13:11)
(Telegraph) (Automatic control)

NAUMOV, Pavel Alekseyevich; CHANTSOV, Sergey Dmitriyevich. Prinimali uchastiye: PRAMNEK, G.F.; GRIGOR'YEV, V.I. PEREGUDOV, A.N., retsenzent; LESHCHUK, I.A., retsenzent; KORDOBOVSKIY, A.I., retsenzent; TOMASHEVSKIY, B.A., otv.red.; KIRILLOV, L.M., red.; MARKOCH, K.G., tekhn.red.

[Course in telegraphy] Kurs telegrafii. Moskva, Gos.izd-vo lit-ry po voprosam sviazi i radio. Pt.2. [Sunchronous apparatus, voice-frequency carrier and subscriber's telegraph exchanges, measurements and automatic control] Sinkhronnye apparaty, tonal'noe i abonentskoe telegrafirovanie, izmereniia i avtomatizatsiia. 1961. 294 p. (MIRA 14:12)
(Telegraph)

SPESIVTSEVA, V.G., kand. med. nauk; PEREGUDOV, A.Ya.; GARKINA, L.L.; ZOLOTNITSKAYA, R.P.; MAKAROVA, N.A.

Late results of the therapeutic use of radioactive iodine (I-131) in thyrotoxicosis. Sov. med. 26 no.11:34-40 N'62 (MIRA 17:3)

1. Iz fakul'tetskoy terapevticheskoy kliniki (dir. - prof. V.N. Vinogradov) I Moskovskogo meditsinskogo instituta imeni Sechenova.

SPESIVTSEVA, V.G., kand.med.nauk; FROLOVA, A.I.; PERUGUDOV, A.Ya.

Significance of the "saliva test" for determining thyroid function in thyrotoxicosis. Terap.arkh. 34 no.3:67-73 '62.
(MIRA 15:3)

1. Iz fakul'tetskoy terapevticheskoy kliniki (dir. - prof. V.N. Vinogradov) I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M. Sechenova.
(THYROID GLAND) (SALIVA)

SPESIVTSEVA, V.G., kand. med. nauk.; PEREGUDOV, A.Ya.

Seven-year result of the use of radioactive iodine (I_{131}) in the diagnosis of internal diseases. Sovet. med. 23 no.2:21-28 F '59. (MIRA 12:3)

1. Iz fakul'tetskoy terapevticheskoy kliniki (dir. - deystvitel'nyy chlen AMN SSSR prof. V.N. Vinogradov) I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M. Sechenova.

(THYROID GLAND, dis.
diag. radioiodine (Rus))
(IODINE, radioactive
diag. value in thyroid gland dis. (Rus))

PEREGUDOV, F. I.

AUTHOR: Peregudov, F. I. 33-4-12/19

TITLE: The Radar cross-section surface of a weakened meteor trail. The effective scattering surface of a weakened meteor trail. (Effektivnaya rasseivayushchaya poverkhnost' oslablennogo meteornogo sleda.)

PERIODICAL: Astronomicheskiy Zhurnal, Vol. 34, No.4, 1957, pp.621-624 (USSR)

ABSTRACT: A meteor trail can be detected by radio methods due to the fact that when the meteor moves in the upper layers of the atmosphere it leaves behind a column of ionised gas which scatters radio waves in a certain range of frequencies. The scattering power of a trail may be characterised by its effective scattering surface. In theoretical investigations of the problem of scattering of radio waves by a meteor trail one studies the scattering of a plane monochromatic wave by an infinitely long dielectric cylinder having the dielectric constant $\varepsilon(r)$ which changes down the radius of the cylinder r. The solution of the problem may be reduced to finding the scattering coefficient g which characterises the scattering properties of the cylinder at large distances from it. It is given by

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$$g = \sqrt{\frac{\pi kR}{2}}\left(\frac{E_1}{E_2}\right),$$

where k is the wave number. It is shown that the scattering surface S_0 as given by the Lovell-Klegg formula is not in agreement with experiment since the latter indicates a sharp decrease in S_0 with decreasing wavelengths. The Lovell-Klegg formula applies only if $r_0 \ll \lambda$. This is violated if the initial radius of the cylinder a is of the order of the wavelength. In this case the condition for coherent scattering by all the electrons in the trail is not satisfied. Using the work of Kaiser et al Ref. 2 and Herlofzon, Ref. 6, a new formula is derived for S_0. It is applicable in a wider frequency range and takes into account phase differences within the weakened meteor trail.
There are no figures, no tables and 7 references, 2 of which are Slavic.

SUBMITTED: December, 1, 1956.

SOV/58-59-8-18734

Translated from: Referativnyy Zhurnal Fizika, 1959, Nr 8, p 244 (USSR)

AUTHORS: Fialko, Ye.I., Peregudov, F.I., Nemirova, E.K.

TITLE: Preliminary Results of Radar Observations of Meteors at λ -10 Meters

PERIODICAL: Byul. Komis. po kometam i meteoram Astron. Soveta AN SSSR, 1958, Nr 2, pp 39-43

ABSTRACT: The article describes the results of radar observations of meteors, carried out in September 1956 with the aid of a meteor radiolocator of the "TPI-1" type. The apparatus had the following parameters: wave-length 10 m; pulse power of the transmitter $\sim$100 kw;pulse duration 5 μ sec; frequency of pulse repetition 300 and 600 pps; sensitivity of the receiver $\sim 10^{-13}$ — 10^{-14}w; transmitting and receiving antennas were horizontal half-wave oscillators, situated at a height of $\lambda/3$ above the ground. The article provides graphs of the daily measurement of meteoric activity, of distributions according to distance and duration and of the relation between the hourly number of meteors and the power of the transmitter.

V.A. Naslednik

Card 1/1